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APPLICATION AND IMPLICATIONS FOR THE SOF TRUTHS AND AVIATION

by

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14. ABSTRACT <p>The Special Operations Forces (SOF) Truths are the four governing principles that have been the foundation for all special operations forces since the establishment of the United States Special Operations Command. Humans are more important than hardware; SOF cannot be mass produced; Quality is more important than quantity; and Competent SOF cannot be created after emergencies occur. These principles guide the acquisition, training, employment and sustainment of all SOF. Since 9/11 SOF aviation has played an increasingly important role in the Global War on Terror. As such, the Air Force Special Operations Command (AFSOC) has seen a tremendous growth in both personnel and weapons systems. This growth seems to have created a departure from the SOF Truths and thus a potential problem. This paper first addresses the applicability of the SOF Truths to SOF aviation and specifically the acquisition and training of AFSOC pilots. It contends that a lack of adherence to the SOF Truths can and has led to unsafe practices and ultimately aircraft mishaps. Finally, it concludes that, while AFSOC has taken great strides to remedy shortfalls in the current training system, there are definite pitfalls to be prepared for as the command continues to grow and adapt in the future. As there is little literature available on the SOF Truths and aviation, the research methodology for this project was primarily interviews of past and current SOF aviators with experience ranging from line pilots to current and past squadron commanders. In an attempt to limit this research project, this paper focuses on two squadrons that are representative of the current conundrum of adhering to a strict training philosophy while maintaining combat readiness and a high operations tempo. The discussion of the 4 Special Operations Squadron and the 319 Special Operations Squadron offers a unique comparison of an established weapons system with a new emerging system employing cutting edge technology respectively. While the missions of these two squadrons are very different, the problems that each faces with respect to the SOF Truths are very similar. The conclusion is that just as the SOF Truths surely have direct application to SOF aviation, AFSOC's success will be a direct reflection of its adherence to the SOF Truths.</p>		

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Preface

This research project represents the first time I have conducted a thorough investigation into the governing principles for special operations known as the Special Operations Forces Truths. While the Truths are part of the everyday life in the Air Force Special Operations Command, their application to aviation is sometimes blurred at best. With guidance from Dr John Reese and discussions from numerous special operations experts throughout the Joint Special Operations research elective, I have been able to develop a better understanding of these governing principles and gained a much better appreciation for their application. I chose this topic to get a better historical perspective on where the Truths come from and how they will apply in the future. I would like to extend a special thanks to Lt Col William Holt for his time and patience through countless e-mail correspondence and numerous interviews.

Abstract

The Special Operations Forces (SOF) Truths are the four governing principles that have been the foundation for all special operations forces since the establishment of the United States Special Operations Command. Humans are more important than hardware; SOF cannot be mass produced; Quality is more important than quantity; and Competent SOF cannot be created after emergencies occur. These principles guide the acquisition, training, employment and sustainment of all SOF. Since 9/11 SOF aviation has played an increasingly important role in the Global War on Terror. As such, the Air Force Special Operations Command (AFSOC) has seen a tremendous growth in both personnel and weapons systems. This growth seems to have created a departure from the SOF Truths and thus a potential problem. This paper first addresses the applicability of the SOF Truths to SOF aviation and specifically the acquisition and training of AFSOC pilots. It contends that a lack of adherence to the SOF Truths can and has led to unsafe practices and ultimately aircraft mishaps. Finally, it concludes that, while AFSOC has taken great strides to remedy shortfalls in the current training system, there are definite pitfalls to be prepared for as the command continues to grow and adapt in the future. As there is little literature available on the SOF Truths and aviation, the research methodology for this project was primarily interviews of past and current SOF aviators with experience ranging from line pilots to current and past squadron commanders. In an attempt to limit this research project, this paper focuses on two squadrons that are representative of the current conundrum of adhering to a strict training philosophy while maintaining combat readiness and a high operations tempo. The

discussion of the 4 Special Operations Squadron and the 319 Special Operations Squadron offers a unique comparison of an established weapons system with a new emerging system employing cutting edge technology respectively. While the missions of these two squadrons are very different, the problems that each faces with respect to the SOF Truths are very similar. The conclusion is that just as the SOF Truths surely have direct application to SOF aviation, AFSOC's success will be a direct reflection of its adherence to the SOF Truths.

INTRODUCTION

From the days of the Office of Strategic Services (OSS) in WWII to today's Special Operations Forces (SOF) in the Global War on Terror, the individuals that make up the core of the United States' unconventional and irregular warfare capabilities have been called upon time and time again. SOF by definition are unique. From elite training standards to special mission abilities, traditional SOF are governed by a very simple set of principles called the SOF Truths: Humans are more important than hardware; Quality is better than quantity; Special Operations Forces cannot be mass produced and; Competent Special Operations Forces cannot be created after emergencies occur. Until recently, the SOF Truths have been largely associated with elite ground units such as the Army Special Forces and Navy SEALs. For the last several decades and especially since September 11th, 2001, the air component of SOF has garnered a larger and larger role in special operations. With the stand-up of Air Force Special Operations Command in 1990, SOF air platforms have proved to be both an enabler and a force multiplier for traditional ground units. AFSOC performs a variety of missions ranging from the Combat Aviation Advisory role of the 6 SOS to close air support (CAS) from the gunships of the 4 SOS and 16 SOS. As AFSOC aircraft and aircrew become more and more vital to current and future special operations, the question arises: Do the same SOF Truths that apply to traditional SOF warriors apply to AFSOC aircrew, and if so what are the implications for the training program as it relates to the SOF Truths? While there are many special mission sets across the many platforms of AFSOC, this paper will primarily address the applicability of the SOF Truths specifically to AFSOC pilots.

All of the elements that constitute the SOF Truths can be found in the aviation component. The nature of the mission, specialized equipment, dynamic environment, highly

experienced operators, and the time required to train and season them can all be directly connected to the SOF Truths. Once it is established that the SOF Truths apply to aviation training, we can evaluate how well that training adheres to the SOF Truths. At first glance, AFSOC has grown at an unprecedented rate. It has increased personnel and aircraft in every squadron. Additionally, AFSOC has fielded entirely new aircraft to meet the unique requirements on the current battlefield. With all of the growth and new capabilities, the SOF Truths have, at the very least, been increasingly difficult to adhere to. From a mass production argument to fielding capabilities too quickly, the SOF Truths can offer some insight into what the training process is and is not doing well.

With the wide range of skill sets even among the pilots of various AFSOC assets, it is difficult to assess the utility of the SOF Truths against each position individually. These skill sets range from demanding night vision-aided low-level missions to close air support fire missions in support of ground forces. For this reason, I will use two specific squadrons as representative examples to evaluate the training process against the SOF Truths. These two squadrons will be the 4 Special Operations Squadron flying the AC-130U Gunship and the 319 Special Operations Squadron flying the U-28A. The reason for choosing these two squadrons is simple. First, the 4 SOS is a mature squadron that stood up in 1992. It grew from an existing platform with an easily adaptable syllabus of similar skills and requirements. As a result, the 4 SOS has never had a major aircraft mishap. In fact, since 2004 the 4 SOS has flown over 34,000 total hours with over 20,000 of those in combat.¹ The 319 SOS on the other hand is an infantile squadron with an entirely new combat capability that went from conception to deployment in an incredibly short span of time. The 319 SOS employs the U-28A which is a variation of the Pilatus PC-12. It is manned by a crew of two pilots and is equipped with a suite of advanced

communications and navigation equipment. The mission of the 319 SOS is to provide intra-theater support for special operations forces. Since October 2005, the 319 SOS has flown in the neighborhood of 57,000 hours. The overwhelming majority of these hours were in combat. While the 319 SOS has had no major aircraft incidents that were combat related, in less than a year, it suffered four major aircraft incidents that were not combat related. The nature and circumstances of these incidents suggests a departure from the SOF Truths and in doing so contributed to the environment that led to these mishaps. This paper will address the applicability of the SOF Truths in some of these incidents and whether or not it could have forecasted them. The comparison of SOF pilot training processes gives us a useful tool to evaluate both the applicability of the SOF Truths to pilots and can be prescriptive in identifying and avoiding possible future incidents as the AFSOC mission continues to change and grow.

Notes

¹ Astroth, Interview.

APPLICABILITY OF THE SOF TRUTHS TO AVIATION

Humans Are More Important Than Hardware

At first glance, this might appear to be simplistic or obvious. From a hardware perspective, the evidence is simple. AFSOC aircraft have become increasingly vital to the SOF mission in the GWOT. From airlift to ISR to CAS, SOF aviation provides both the commander and the operator with an unprecedented advantage in command and control (C2), intelligence and freedom of movement. Without these assets, SOCOM's role as the synchronizer in the GWOT would be severely degraded. The importance of the hardware employed by AFSOC cannot be overstated. However, it is the performance of the human element that ultimately makes the mission a success.

From a human perspective, a ground SOF member has a much lighter logistics requirement with regards to equipment and hardware. That soldier is trained to operate in an environment with or without the preferred kit. In his case, the identification, selection, training and development of the human element are the most important factors in making a SOF warrior. In AFSOC, many pilots enter the community as an Undergraduate Pilot Training (UPT) pipeline student with zero operational experience. These candidates are assigned out of pilot training with no formal requirements or expectations to meet other than simply graduating. The washout rate for copilots in both the 319 SOS and 4 SOS is near zero. So the question is where does the human element outweigh the hardware capability? The key here is what happens from the initial copilot qualification to aircraft commander certification.

The dynamic nature of tactical flying requires a pilot to not only process the functions required to properly maneuver an aircraft in terms of control and performance instruments, but

he or she must also be able to multi-task those skills while performing any number of mission tasks at the same time.¹ For instance, a gunship pilot flying a tactical orbit might be required to fly correct firing geometry, monitor up to four interphone nets, four radio nets, and coordinate with the fire control officer and navigator for target acquisition all while scanning the battlespace for possible threats. To perform this type of airmanship at a high level of proficiency takes a tremendous amount of effort and skill. In the case of pilots, the copilot has the luxury of a lower level of saturation. The copilot does not have the same level of responsibility or, in many cases, the same situational awareness offered the pilot through both mission systems and experience. The time spent as a copilot is an opportunity for that individual to watch and learn from the aircraft commander. As the copilot matures and develops that multi-tasking ability, he or she will slowly be able to take in and process more information to build the required level of situational awareness. An individual must demonstrate the ability to manage both the basic and mission systems and the ability to lead a crew before being identified as an aircraft commander candidate.

Combining experience, a selection process, and a training program ensures that an aircraft commander is ready to lead a crew and will have the best possible impact on the tactical mission. So when compared to ground SOF, new pilots might appear to be lacking in qualification and secondary to the hardware they are flying. However, it is the seasoning process that occurs in the copilot seat that is so crucial to developing an effective aircraft commander. Perhaps another way to view the proposition is that a ground SOF candidate must meet a high level of proficiency before even applying for SOF duties. On the other hand, a pilot begins his process only after initial qualification. Either way one looks at it, the human element and its associated Truth have direct application to AFSOC pilots.

SOF Cannot Be Mass Produced

Since the events of September 11, 2001, this Truth has become one of the most controversial tenets. SOF by definition are special. "Special" implies a level of ability or competence that cannot be met by the average soldier or airman. This claim can be based on any number of reasons. First, the basic entry criteria and selection process for ground SOF eliminates a significant portion. AFSOC pilots face a different dilemma with the same effect. The entrance criteria may be somewhat less stringent with almost any UPT graduate meeting the qualifications, but grooming that pilot into a competent operator is no easy task. The actual number of aircraft available, combined with a high operations tempo have designated both the 4 SOS and 319 SOS as High Demand/Low Density assets (HD/LD). Initial qualification consists of both a qualification and mission phase. Even with high quality simulator events, each phase requires significant training opportunities in mission aircraft. The commanders of both the schoolhouse and the operations squadrons constantly struggle for a balance between student sorties, mission proficiency and exercise support that are all competing for a limited resource. The perfect training environment would have the ability to move students from one event to the next with no breaks in training, 100% maintenance effectiveness and excellent continuity. Even if this unrealistic, ideal training environment existed, the true potential and grooming of an AFSOC pilot cannot be measured. There is no substitute for operational flying and mission experience. While the operations tempo remains high in AFSOC relative to the number of pilots available, exercises, rehearsals and significant real world opportunities are relatively few. More simply, even with a perfect training environment, AFSOC cannot simulate and mass produce the real-world experiences that are required to prepare a pilot to become an aircraft commander. In

this sense, the SOF Truth that SOF cannot be mass produced directly applies to aviators and specifically pilots.

Quality Is More Important Than Quantity

This Truth might have some common ground with the previous discussion on mass production, but it does have some significant differences. In some military applications, mass and numbers are preferred assumptions. The nature of the SOF mission does not place a high premium on numbers. On the other hand, the quality of the operator is of the utmost importance. SOF generally operate with smaller units to achieve asymmetric results and limit their visibility. The quality of each operator must be of the highest standard. This Truth directly applies to AFSOC pilots. In an interview the commander of the Air Force Special Operations Training Center (AFSOTC) Col Paul Harmon stated, "When it comes to quality, give me fifty outstanding pilots and I can do a better job than I can do with a hundred so-so pilots." Col Harmon's observation is right on point. The usefulness of an aircraft working with a ground operator relies heavily on the confidence, trust and relationship between that operator and the aircrew. If a pilot cannot lead a crew in providing timely, effective support to the operator, then that crew becomes a liability to the mission. The teamwork between AFSOC crews and their ground counterparts requires a high level of quality on both ends. Even a single pilot having a bad day could have catastrophic consequences for the counterpart on the other end. AFSOC simply cannot afford to lower any standards to meet a quantity requirement. The same consistent quality standards must be applied throughout the training and unit proficiency process.

Competent SOF Cannot Be Created After Emergencies Occur

Colonel Aaron Bank was a member of the OSS in WWII and he recognized the unique requirements for special operations. Writing about Col Bank, Linda Robinson notes that, "Bank considered it essential to have a standing force prepared to conduct unconventional war primarily because the various skills, especially knowledge of the language and the country where the units would be deployed, took time to acquire, and the special forces must be deployed early in a conflict for maximum effectiveness."² In the post-Vietnam military drawdown, SOF manning and capabilities were scaled back. Four Special Forces groups were deactivated, "...as the Army concentrated once more on conventional warfare, turning its gaze from the jungles of Asia to the well-worn tank paths of Europe."³ This Truth was reinforced during the tragic rescue attempt of American hostages in Iran where a wealth of errors prevented the services from rapidly developing this level of capability. So does this Truth apply to SOF aviation? From a training standpoint it absolutely applies. It takes at least one year for an Undergraduate Pilot Training (UPT) student to complete the basic syllabus. From there, individuals must complete basic and mission qualifications in their major weapons system (MWS). Depending on the MWS, and available training billets, this could take up to an additional twelve to eighteen months. The need for a standing aviation capability and the pilots trained to meet potential crises is clear.

This final Truth has more application than from just a training standpoint however. There is also a capabilities component to consider. AFSOC has a force that is trained and equipped in a variety of mission essential tasks. In some cases, AFSOC may have to acquire new equipment and train aircrews on how to use it. The ROVER modification to the AC-130U Gunship was a mission enhancement system that exploited a new technology. The acquisition

process and training timeline for this modification to reach the combat zone was a matter of weeks. The ROVER is a mission enhancement system that could be relatively easily incorporated into an aircrew's crosscheck. However, when an entirely new capability or requirement arises, there are many more factors to consider. Fielding an entirely new MWS requires a much greater level of effort and lead time to match aircraft to requirements and properly train the pilots to operate them. The U-28A is a perfect example where the need for a capability drove the training and evaluation process beyond its capacity.

Notes

¹ AFI 11-217V1, Instrument Flight Procedures, 14.

² Robinson, Masters of Chaos, xiii

³ <http://www.soc.mil/sofinfo/story.html#sps01>

IS AFSOC VIOLATING THE SOF TRUTHS?

We have established that, even though SOF aviation is unique, the same precepts that apply to ground SOF also apply to the pilots flying above them. Now we must determine how well AFSOC is adhering to these principles. As discussed earlier, the purpose of this paper is not to evaluate every type of pilot across all of the platforms in AFSOC. Rather, this paper will use two representative squadrons to evaluate AFSOC's adherence to the SOF Truths and what lessons may be applied in the future. These two squadrons are representative of AFSOC squadrons that have experienced a large growth rate while sustaining a significant combat commitment overseas. The author has intentionally chosen to discuss the 4 SOS and 319 SOS in order to compare and contrast the application of the SOF Truths to a mature, established squadron and an entirely new squadron respectively.

Humans are more important than hardware

The 4 SOS was created with the acquisition of the AC-130U as the follow-on to the AC-130H. While the aircraft have some systems differences, the overall employment and tactics, techniques and procedures (TTP) are virtually identical. The Air Force originally purchased thirteen aircraft and has recently added four more to the inventory. The AC-130U has been a workhorse for CAS operations with SOF personnel in both OIF and OEF. As such the 4 SOS has been continuously deployed since October 2001 without a significant period of reconstitution. With the number of hours flown and the nature of the combat mission, the gunship is aging at an accelerated rate. In an interview with CBS, a maintenance officer noted that center wing box fatigue was requiring major structural maintenance five years ahead of

schedule.¹ AFSOC has certainly identified a major problem with its gunship fleet and understands the safety implications.

While the aircraft have experienced a significant amount of stress and fatigue due to the sheer number of hours flown and the environment they fly in, the crews manning these aircraft have endured an equally challenging eight years of deployments. The remedy for this is much more difficult than sending an aircraft to the depot for a fix. AFSOC has worked tirelessly to ensure that its members (both aircrew and support) receive whatever medical or counseling help they require due to a high deployment tempo. For the 4 SOS, the average pilot is deployed 120 to 150 days a year. Some of its pilots are currently TDY for the thirteenth or fourteenth deployment. Every member that deploys receives both deployment and redeployment briefs from medical, finance, legal and chaplain staff. These briefs are used to prevent and diagnose personal issues for each member.

From an operations standpoint, each thirteen-person crew that deploys is reviewed by the squadron operations officer. With advice from functional crew position managers, the squadron tries to maximize the effectiveness of the crew complement. The operations officer weighs each individual on factors such as rank, experience, combat hours, previous deployments and checkride results to ensure that each crew has the personnel to be successful in combat. While some crewmembers may have to shorten their CONUS dwell time on occasion to make up for shortfalls in the deployment rotation, overall the squadron makes every effort to maintain a relatively stable and predictable rotation. Another factor for deploying members of the 4 SOS is the length of deployments. While they may deploy more often, usually the rotations are between 65 and 75 days. Deployments are generally shorter due to the number of flying hour accumulated by crews each month. Air Force members are limited to 125 hours of flying in a 30

day period or 330 hours in a 90 day period. The 4 SOS maintains a deployed flying tempo that can push crews to these maximum monthly flying hours. Maintaining a shorter deployment period is one way to prevent this.

While the 4 SOS has many more individuals manning its aircraft, the 319 SOS still has many of the same considerations when deploying its members. From a hardware standpoint, the 319 SOS has combined a commercially competitive airframe with state of the art mission systems in the U-28A. As a new system, the 319 SOS does not suffer the same maintenance attrition as the older gunship. Like the 4 SOS, the most important part of the 319 SOS mission is the human element. 319 SOS pilots were deploying within days of initial qualification to meet the requirements of the ground elements. These pilots fly nearly the same number of hours as their gunship counterparts. However, proportionally the 319 SOS pilots do not have the same size pool of pilots to choose from. As a result, the 319 SOS pilots are often deployed more often and for longer periods of time. Their home station dwell time can sometimes be half of that of other AFSOC squadrons. This poses a serious morale issue for leadership. LtC Bill Holt says that his approach to the human element is to, "Reassure his crews and to hold tightly to the current dwell time and build a plan to increase dwell to match other SOF squadrons ASAP. This of course has to be balanced against the mission and the demands of squadron growth in personnel and mission taskings."

All total, both the 4 SOS and 319 SOS make compelling arguments for adhering to the human Truth for SOF. One of the very positive aspects of the high operations tempo in AFSOC is that the command has gained a wealth of experience in this area over the last eight years. The processing for both deploying and returning crews offers every available resource to the individual to help with the transition to and from the combat zone. The result is crews that can

minimize their worries about their personal lives so they can better focus on the mission at hand while they are deployed.

Quality Is More Important Than Quantity

The combat exploits of the AC-130 have made the aircraft "minimum equipment" for many SOF operations. As the demand for gunship support has grown, so has the demand to increase the fleet. The most recent additions were four additional airframes, with the final copy being delivered in 2008. As the formal training squadron, the 19 SOS was charged to train the corresponding increase in aircrew. In order to meet this demand, the 19 SOS began to train twelve crews per academic year. This is a 50% increase over the maximum number of crews ever trained in a twelve month period. While the 19 SOS has a simulator to facilitate training, the availability of mission aircraft for training sorties has been one of the major limiting factors. Additionally, the 1 SOW supports the 14 Weapons Squadron and its syllabus for the Weapons Instructor Course. In order to meet the demands for training aircraft, the 4 SOS has been required to lower its total number of unit proficiency sorties. All of these factors add up to a severe competition for a very limited resource.

Even through a difficult process to assess priority between student training sorties, unit proficiency sorties and weapons school support, the squadrons have been forced to come up with innovative ways to meet the challenge. It is important to note that the different syllabi for different crew positions each have unique requirements. This paper only reflects the impacts on pilot proficiency and training. The pilots for both the 19 SOS and 4 SOS are interchangeable in most cases. There are instructor and student issues to consider, but these are worked out at the scheduling level. Even more, pilots are able to change seats throughout a sortie to allow multiple

pilots to meet required proficiency events. The effective scheduling and integrated approach to it is just one way the 4 SOS maintains both a current and proficient pilot force.

Another factor to consider when viewing the quality of the 4 SOS pilot corps is the experience level. When just counting assigned unit pilots, the 4 SOS has twenty pilots with over four years time on station. Having this many senior pilots with literally thousands of hours of combat experience is a great asset. As a minimum, a copilot is required to log at least 800 total flying hours before upgrading to aircraft commander.² In most cases, the majority of these hours are accrued at deployed locations.

While the 4 SOS is a mature squadron that has been able to draw and rely on an experienced pilot corps with proven capabilities, the 319 SOS faced a much more difficult challenge. The 319 SOS had to both acquire a new weapons system and match the pilots to fly it. In 2005, AFSOC began to populate the 319 SOS with highly experienced pilots from other airframes. By the time the initial cadre completed qualification in 2005, the average pilot had over 3,000 total hours and over 2,000 hours as an aircraft commander.³ The speed of the acquisition and the combat requirement to deploy the weapon system demanded a high level of proficiency and airmanship from the pilots. At the time, no formal training syllabus or robust standardization/evaluation mechanisms were in place.

This places a large amount of trust on the pilots flying the aircraft. The quality of the initial pilots of the 319 SOS was more than capable of making up for the lack of formal standards. However, as it grew, the available pool of pilots with comparable experience levels began to shrink. In 2006, when the U-28A was finally designated as an MWS, the squadron began to receive pipeline students from UPT. While these pilots have received a high level of flying training and many had a significant level of experience and judgment, the overall

experience as it related to the SOF mission was relatively low. As the squadron grew to its current size, it continued to control its own training syllabus and stan/eval function. This is quite unique to any standard training for any other MWS.

Under these circumstances, there was a large pressure to field a combat capability completely within one squadron. Just as an example, any other MWS in a major command must have a formal training syllabus created and approved by the MAJCOM staff. The 319 SOS did not follow this same process due to its accelerated timeline. The implication here is that there is a conflict of interest with regards to training standards and stan/eval function when a squadron is operating completely internally. As the commander of the 19 SOS put it, "When you run your own training program without oversight, and then run your own stan/eval function, you are creating the perfect storm for something bad to happen."⁴ Col Harmon agrees with this assessment. He contends that the schoolhouse is the process by which quality is ensured. He calls the formal training process a, "Backstop for a commander that is pressured to move a capability into the field. The schoolhouse ensures a minimum level of competency and quality before a pilot even arrives to the squadron."⁵ In the opinion of the commander of the 319 SOS, LtC Holt believes the tolerance of the stan/eval and training function remaining resident in the operational squadron was, "The result of an overarching effort to mass produce U-28 crews. Remember, we are flying a mechanically simple aircraft compared to most other SOF platforms. However, it is an exceedingly difficult mission to master. The plane was designed as an affordable alternate to private jets flown by experienced corporate pilots. This has been a problem in that many experienced pilots perceive this aircraft as simple to fly, when in fact it is more difficult than what was originally thought."

LtC Holt offered an excellent example to illustrate this argument.⁶ Upon reviewing an incident in which a training aircraft landed without its landing gear extended, LtC Holt reviewed the instructor pilot's training folder. This folder normally contains a MAJCOM approved training syllabus that contains both ground and flying training. The squadron-only syllabus prescribes seven sorties for an instructor pilot to complete the requisite training for his or her checkride. Due to pressure to qualify new instructors to meet the demands on the squadron, this individual only received two of the seven prescribed sorties. The individual had been proficiency advanced based on demonstrated ability on previous sorties. Proficiency advancement for pilots is not entirely uncommon. In many cases, for basic skills such as patterns and departures, an individual may meet a required level of proficiency earlier than what is required in the training syllabus. If an individual shows enough proficiency in the overall profile, the pilot may be allowed to skip the next sortie and move to the next level. However, to proficiency advance an individual over 70% of a training syllabus is unheard of. The author is not placing blame but making the observation, that had this individual been trained under a formal syllabus where there are minimum requirements and direct commander oversight for proficiency advancement, this individual would have received a minimum of three more sorties to reinforce the TTPs for flight instructors. This additional training might have been enough to prevent the future aircraft incident that the subject instructor was involved in. In this case, the quality control measures of the formal training squadron would not have allowed an individual to proficiency advance this many events regardless of the quantity shortcoming for instructor pilots.

Every commander and member interviewed agrees that quality is infinitely more important than quantity. At the same time however, the emphasis on the quality control was not emphasized nearly as much as reaching a certain quantity to get this new combat capability in the

field. In the beginning, the quality factor was not an issue. The high caliber of pilot that made up the initial cadre was able to overcome an obvious shortfall in the qualification process. However, the suspension of a standardized training syllabus with little or no group level stan/eval oversight combined with a significantly less experienced pilot base, surely created an environment where the stress on quality took a back seat to quantity.

You Cannot Mass Produce SOF

The mass production argument in AFSOC is currently one of the most contentious issues. Mass production has different meanings to different people. Based simply on numbers, the end state of 240 pilots for the 319 SOS is not a statistical anomaly compared to the rest of the Air Force.⁷ Percentage-wise however, this increase is over 800% in three years from the original pilot requirement.⁸ Judging by the number of required pilots and from a statistical standpoint, the growth rate of the command is surely difficult to reconcile with this Truth. However, in order to gauge the adherence to this Truth, one must consider not only the increase in pilot production, but how those pilots are being integrated into the force. Only then, can one truly judge if this Truth is being dismissed to meet some other goal.

The 4 SOS has grown from thirteen to seventeen aircraft. This increase requires a proportional increase in pilot production. To meet both the demands of pilot attrition due to separations and retirement and the increase in aircraft, the formal training schoolhouse has been tasked to increase its qualification courses to twelve crews per year. This is a 50% increase in pilot production over the highest year ever for the 19 SOS. Historically, the 19 SOS has generated only six crews per year since the year 2000. The argument here is that AFSOC must be mass producing gunship pilots to meet the required force. On the contrary, the 19 SOS is able

meet the demand for additional crews because of the awareness by leadership and a significant reallocation of assets.

First, with the exception of higher headquarters taskings, the 19 SOS now gets the highest priority for home station aircraft and sorties. This allows the 19 SOS the maximum training opportunities to meet student requirements. At the same time, the 4 SOS and the 19 SOS have daily scheduling meetings to ensure, whenever possible, qualified crewmembers from the operations squadron can fly on student sorties in order to maintain their currency and proficiency.

Second, the AC-130U simulator now has a much higher utilization rate. The simulator is now scheduled as needed to meet student training requirements. This allows crews to receive training well outside of the normal duty day.

Third, the instructor cadre has grown to meet student requirements. In the past, the 19 SOS rarely received a full complement of instructors to meet student requirements. Now the squadron has two crews worth of fully qualified instructors. In the past, the lack of instructors sometimes created scheduling limitations between academics, simulator and flying events. The increase in the instructor manning combined with additional instructor help from the 4 SOS allows the 19 SOS to meet this demand.

The final and perhaps most important change for the 19 SOS is the length of the syllabus. The 19 SOS has been able to cut the required length of time to train a crew from nine to five months.⁹ The first step was a top down reorganization of the schedule for each crew position. Each crew position has a different set of training requirements that all take different amounts of time to complete. Because gunship students train as a crew, there were significant amounts of down time for some crew positions while they waited for their classmates to reach a certain

level. The 19 SOS uses a very effective team of active duty members and contractor personnel to minimize this down time and maximize each training day of the syllabus.

As the 4 SOS grew by 31% in aircraft and a 50% in required pilot production, one might assume that a mass production process was needed to meet the demand. Instead, the training squadron used existing syllabi, proven TTPs and an innovative scheduling process to ensure the same caliber of pilot was graduating as under the old system.

While the 4 SOS had the luxury of adapting an existing program to meet an increased requirement, the 319 SOS had to start from scratch. Much of the discussion here is related to the previous discussion of quality and quantity. The acquisition of the U-28A aircraft was extremely fast and efficient. The corresponding training of its initial cadre of pilots was equally quick. However, as the requirement grew from 50 to over 200 pilots, the 319 SOS was faced with a serious dilemma. It had to fill a vital combat capability in a small amount of time with little or no manning. The argument can be made that there was little time to meet and establish all of the staffing and formal training processes during the initial fielding of a combat requirement. However, as the squadron became more established and recognized as an MWS, the product going into the training for the U-28A had significantly changed. The squadron had shifted from training significantly high time pilots with extensive SOF experience to acquiring initial pipeline students. The end state for 2009 will be a total of 240 pilots. This growth rate will require a significant formal training program that is resident outside of the squadron to ensure this level of quantity receives and maintains the same level of quality control throughout the initial qualification process.

The 19 SOS currently has no full time U-28A instructors. This shortfall is based on deployment requirements and maintaining a 1.5 dwell time for squadron personnel.¹⁰ In order to

meet the standards discussed above, the schoolhouse will need a full complement of instructors that are capable of flying training and the associated oversight of the program. This is a lesson learned from the Gunship community. Once the instructor cadre is staffed to meet training requirements, both the output and the quality of graduate will show significant improvement.¹¹ Until this happens, pilots will continue to receive a lesser degree of training that can be offered by the formal schoolhouse. Continuing to press ahead to meet the 240 pilot end-state without the formal process would continue to violate the Truth of mass production.

Competent SOF Cannot Be Created After Emergencies Occur

For the 4 SOS, the adherence to this Truth is a rather short discussion. The AC-130U is a capability that has evolved from a long line of side-firing aircraft. While the airframes, mission equipment and mission systems have changed, the actual mission and TTPs have changed little since the Vietnam conflict. The 19 SOS was created following the first Gulf War and has continued to grow in both scope and vitality. The training program offered by the schoolhouse is a result of years of evaluation and improvement. As such, the pilots and crews of the 4 SOS have been ready and available for worldwide deployment. Even with aircraft and crews deployed in combat, the 4 SOS still maintains a high level of readiness at home station to meet emergencies and contingencies that may arise.

The 319 SOS on the other hand was not necessarily conceived as a result of a single emergency. Instead, as the tactics and technology of the ground forces evolved, the requirement for this aircraft and capability became apparent. As a result of a combat need with a short timeline, the requirement for this SOF capability essentially had the same effect as an emergency. This was a self-imposed constraint to field the U-28A on such a short timeline. The dedication and professionalism of the members of the 319 SOS initially made this a very

successful venture. However, according to LtC Holt, the in-house training syllabus was designed around a very experienced pilot base. He notes, "Some of the risk that could be absorbed by having highly experienced pilots in both seats early on can no longer be absorbed when we are training inexperienced aircrew. But, we need those young airmen for the long term health of the unit."¹² By not adhering to this Truth, the men and women of the 319 SOS were put at a distinct disadvantage. Despite their initial successes, the results of trying to "play catch-up" with SOF after an emergency occurs can be catastrophic.

An interview with Major Matthew Jamison from AFSOC Safety offers some excellent insight into how dangerous playing catch-up can be. He reinforces the assertion that the U-28A is not quite as easy an aircraft to master as initially thought. The current syllabus has the initial qualification sorties conducted by contract instructors. This contract support surely helps the 319 SOS ease the burden on a heavily deployed squadron and increases training opportunities. However, the unintended consequence has been a lack of proficiency on uniformed instructors in basic qualification instruction. As Maj Jamison puts it, "Throw two initial qual students in with a squadron instructor who has been doing only mission sorties...and you are setting him up for failure."¹³ This is precisely the situation that might have allowed an experienced instructor to allow a relatively inexperienced student to land an aircraft without lowering the landing gear. While the aircraft received significant damage and the crew survived without injury, the threat of near catastrophe is undeniable.

In another observation, Maj Jamison points to the fact that inexperienced pilots originally required, "200 hours pre-deployment minimum for seasoning, training, evaluation, and mentoring."¹⁴ This requirement was quickly dismissed in response to a demand for pilots to deploy and fly combat missions. Again, this may have worked for a flight deck that had over

6,000 hours of combined experience, but in the case of pipeline pilots, their experience level was limited to the training environment.

Notes

¹ CBS News, <http://www.cbsnews.com/stories/2008/03/12/eveningnews/main3932752.shtml>

² AFI 11-2AC-130V1.

³ Holt to the author, e-mail.

⁴ Lott, Interview.

⁵ Harmon, Interview.

⁶ Holt, Interview.

⁷ Pedersen to the author, e-mail.

⁸ Ibid.

⁹ 19 SOS Training Syllabus.

¹⁰ Holt to the author, e-mail.

¹¹ Harmon, Interview.

¹² Holt to the author, e-mail.

¹³ Jamison, Interview. Interview with Maj Jamison.

¹⁴ Ibid.

Conclusions and Recommendations

Now that I have established that the SOF Truths apply to both SOF aviation and the associated training process, it is time to apply conclusions and recommendations that have come from this analysis and past performance. The process of comparing and contrasting the applicability of the Truths between a mature and established organization and capability with a brand new squadron and weapon system, has proven very insightful and lays the ground work for the following considerations and recommendations in the future.

First, the initial successes enjoyed when matching a new technology with highly experienced aviators can have outstanding initial results. However, once this exceptional capability becomes normalized into the inventory, relying on the initial results, while tempting, can be misleading. While there are cases such as the 319 SOS where a combat need mandated a condensed timeline, I recommend that the pilots permitted to operate under these guidelines be limited from the outset. Furthermore, I recommend that pilots operating without a formal training program return to the training squadron once such a syllabus is in effect and receive refresher training to reinforce or receive training in the events they have not yet accomplished under instructor supervision. This will ensure that every pilot, at some point or another, has received the same baseline of training.

Second, the formal training process cannot be over-emphasized. While contingencies and emergencies may justify a greater acceptance of risk in the beginning, the formal training process must be established as early as possible. The formal training process consists of TTPs, aircraft, simulators, MAJCOM-approved syllabi, and most importantly a dedicated cadre that is resident in the schoolhouse and not within the operational squadron. This organizational structure ensures each pilot graduating from initial mission qualification meets all quality

standards defined in the syllabus. Secondly, this structure provides a natural defense against moving to a mass produced pilot force. If the squadron needs to increase pilot production to meet demand, it will have to request the increase through the appropriate agency. Doing so will force the schoolhouse to best decide how to manage its people and resources to meet the operational squadron's needs.

Next, the standardization and evaluation function must also be formalized with group and MAJCOM level representation. These representatives will act as the quality control instrument for the group and MAJCOM commanders. The processes of staff assisted visits and headquarters inspections will ensure visibility for commanders into all aspects of the SOF Truths. Stan/eval provides trend analysis on the overall health of the pilot force. Any suspension of the stan/eval checks and balances will have a direct negative impact on the mission readiness of the pilot force.

Finally, the research for this paper has revealed the overwhelming importance of the human factor in SOF aviation. While the MAJCOM has taken great strides to ensure the personal health of the force, it is the efforts of the squadrons that make it a reality. Both of the squadrons examined go to great lengths to combat the stress and fatigue that comes from constant deployments and the associated uncertainties. From pre-deployment planning to robust spouses groups to post deployment time off and operation homecoming, the adherence to the human Truth has been and should always be considered.

This research has been a historical comparison between the two subject squadrons, the 4 SOS and 319 SOS. Whether it is the expansion of an existing capability or an entirely new one, there will always be growing pains associated. Many of the shortfalls encountered during the stand-up of the 319 SOS have been addressed and the squadron is still performing at an

outstanding level in its primary combat mission while addressing some of the SOF Truths discussed above. In an e-mail LtC Holt writes, "...since I took command, I have gotten nothing but absolute support from the SOG, SOW, AFSOC and SOCOM leadership. I think everyone realized the errors (assumptions about flying light fixed wing aircraft) that had been made in the first 3 years and regrouped."¹ Col Abernathy of AFSOC Stan/Eval noted in a phone interview that, "We may not currently have a problem. We have addressed many of the past problems and tried to make changes. What we need to do is have recommendations or lessons learned that we need to keep in mind for the future."² What this research has done is to provide recommendations for future squadrons and capabilities that are on the horizon. As long as SOF continues to be at the forefront in the GWOT, its aviation component will have to remain agile enough to adapt and levy emerging technologies and capabilities to meet strategic objectives. This level of professionalism on behalf of AFSOC pilots and aircrews can only be accomplished through strict adherence to the SOF Truths.

Notes

¹ Holt, Interview.

² Abernathy, Interview.

BIBLIOGRAPHY

Air Force Instruction(AFI)11-2AC-130V1. *AC-130 Aircrew Training*. 17 September 2008.

Air Force Manual (AFMAN) 11-217V1. *Instrument Flight Procedures*, 3 January 2005.

CBS News Story. "Terror War's Workhorse Falling Apart."

<http://www.cbsnews.com/stories/2008/03/12/eveningnews/main3932752.shtml>

Col Paul R. Harmon (Commander, Air Force Special Operations Center, Hurlburt Field, FL), personal interview by the author, 6 February 2009.

Col Robert K. Abernathy (Air Force Special Operations Command, Standardization and Evaluation), telephone interview by the author, 2 October 2008.

Lt Col Royce D. Lott (Commander, 19 Special Operations Squadron, Hurlburt Field, FL), personal interview by the author, 9 January 2009.

Lt Col William G. Holt (Commander, 319 Special Operations Squadron, Hurlburt Field, FL), telephone interview by the author, 21 November 2008.

Lt Col William G. Holt, Commander, 319 Special Operations Squadron, Hurlburt Field, FL, to the author, multiple e-mail correspondence, 1 December 2008 to 15 Mar 2009.

Major Kenneth E. Pedersen (Air Force Special Operations Command, Personnel), multiple telephone and e-mail correspondence beginning 1 October 2009.

Major Matthew Astroth (OIC 4 Special Operations Squadron Safety, Hurlburt Field, FL) telephone interview by the author, 15 Mar 2009.

Major Matthew A. Jamison (Air Force Special Operations Command Safety Officer), telephone interview with the author, 2 February 2009.

Major Matthew A. Jamison (Air Force Special Operations Command Safety Officer), to the author, email, 12 March 2009.

Major Timothy Moore (Assistant Director of Operations, 19 Special Operations Squadron, Hurlburt Field, FL), phone interview with data derived from the 19 SOS Training Syllabus

Official United States Army Special Operations Command website. "WITHOUT EQUAL: The Story of Army Special Operations." <http://www.soc.mil/sofinfo/story.html#sps01> (initially accessed 3 December 2008).

Robinson, Linda, *Masters of Chaos*. New York, NY: Public Affairs, 2004